

Application No.: 10/562,482
Art Unit: 3682

Amendment under 37 C.F.R. §1.111
Attorney Docket No.: 053511

AMENDMENTS TO THE DRAWINGS

Fig. 7 has been amended so that it is designated as "Prior Art". A replacement sheet of drawing representing Fig. 7 is attached hereto. No new matter has been added.

REMARKS

Claim 1 has been amended as set forth above. Accordingly, claims 1-6 remain for consideration in this application.

The drawings are objected to as not showing every feature of the invention.

The Office Action suggests that the language, in claim 2 (“leverage becomes smaller”) and in claim 3 (“leverage is maximum), is not shown on the drawings. Applicant respectfully disagrees with the Office Action. The above limitations in claims 2 and 3 are clearly illustrated in Fig. 6. Specifically, in Fig. 6 the “leverage” is represented by a diagonal line. In fact, the slope of that line that represents the leverage itself. The greater slope represents a higher leverage and the smaller slope represents a lower leverage. Since the diagonal line in Fig. 6 has a lesser slope after the synchronization point, the limitation of claim 2 is met. Since the slope of the line is greater at the time of the synchronization point, the “leverage is maximum” language of claim 3 is met. Accordingly, the drawings do, in fact, show the features set forth in the claims.

Furthermore, it should be noted that the value of the leverage in Fig. 6 should not be read based upon the vertical axis. In fact, the vertical axis represents the change lever displacement, and not the leverage, and the horizontal axis represents the synchronizing sleeve displacement. Fig. 6 clearly illustrates that the leverage is not constant with regard to the change lever displacement. That feature is shown in Fig. 7, which represents the prior art.

Accordingly, it is submitted that the features of claims 2 and 3 are clearly illustrated in the drawings, specifically in Fig. 6. Therefore, the above objection should be withdrawn.

Fig. 7 is indicated as being prior art.

Accordingly, Fig. 7 has been amended so that it is designated as “Prior Art”.

Claims 1-6 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Regarding claim 1, the Office Action suggests that the term “heteromorphous cams” is unclear. The term “heteromorphous” refers to having “two or more different forms”.

Specifically, a dictionary (The New Oxford American Dictionary, 2001) defines the term heteromorphic, in part, as follows:

...occurring in two or more different forms,....

Exhibit A is a copy of the dictionary definition. A clear example of this “heteromorphous cam” of claim 1 is shift arm 53 of Figs. 3-5, which has two different cam profiles (see arc portion 53b and contacting part 53c) for engaging shift piece 41. Accordingly, it is submitted that the term “heteromorphous cam” is clear from the specification (for example see page 11, lines 2-19) and the claims, and the drawings (see in particular Figs. 3-5A). Thus, it is submitted that there is no indefiniteness with regard to this term.

Additionally, claim 1 has been amended to clarify any lack of antecedent basis.

Furthermore, with regard to claims 2 and 3, this is the same issue as described above with regard to claims 2 and 3 and the drawings. As in the discussion above, claims 2 and 3 are fully supported in the specification and drawings. Since the leverage is represented by the slope of the diagonal line in Fig. 6, it is clear that the leverage is at a maximum in the first part of the

diagonal line and that it is smaller (lesser slope) at least at a point halfway along the length of the diagonal line of Fig. 6.

Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. §102(b) as being anticipated by Willford (USP 5,566,579).

Willford discloses a vehicle transmission having manually shifted lower gears and automatically shifted higher gears. The Office Action, with regard to claim 1, points to depending finger 37 (shown in Figs. 2 and 8), where depending finger 37 actuates third shift rail 22. The Office Action suggests that the bottom of depending finger 37 has heteromorphous cams. The cam surface on the bottom portion in Fig. 8 of Willford is a smooth cam having essentially the same radius of curvature through the operating portion. That is, the cam surface of Willford does not have different cam profiles or radii (thus not heteromorphic) where cam(s) “are in contact with said shift piece”, as required by claim 1. Although the bottom is flat, it is not part of the operating portion (as seen in Figs. 5 and 6). Thus, as noted above, amended claim 1 includes the following feature:

...said shift arm having heteromorphous cams at a contacting part thereof, wherein said cams are in contact with said shift piece; and...

Accordingly, as noted above, the cams of the “heteromorphous cams” are each in contact with the shift piece. This is not disclosed, nor suggested, in Willford wherein the end portion of the depending finger 37 is simply a single cam radius for contacting shift block 70. Thus, depending finger 37 does not disclose nor suggest the claimed “heteromorphous cams”, and accordingly does not function with two different leverage levels, as clearly recited shown in Fig. 6. In fact,

the depending finger 37 of Willford functions in exactly the same way as Fig. 7, having a constant leverage, which is the prior art.

Accordingly, it is submitted that claim 1, as amended, clearly distinguishes over the disclosure of Willford. Thus, it is submitted that claims 1, 2, 5 and 6 are not anticipated by Willford.

Claims 3 and 4 are rejected under 35 U.S.C. §103(a) as being unpatentable over Willford in view of Jackson (USP 6,467,598).

Jackson is simply provided to show synchronizers for use in a multi-ratio manual transmission. Accordingly, since claims 3 and 4 are dependent, directly or indirectly, from claim 1, claims 3 and 4 are allowable over Willford, in view of Jackson, for the reasons set forth above with regard to claim 1.

In view of the amendments to claim 1, the drawings, and the remarks set forth above, it is respectfully submitted that the Examiner's objections and rejections have been overcome. Therefore, it is respectfully requested that the objections and rejections be withdrawn and that claims 1-6 be allowed.

CONCLUSION

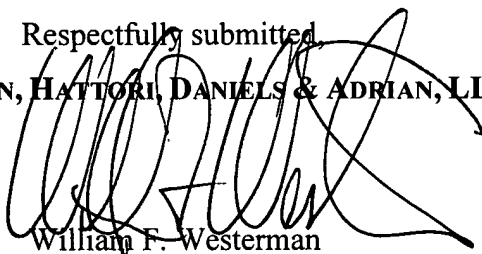
In view of the foregoing amendments and accompanying remarks, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

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If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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WFW/dlt

Attachments: Exhibit A
Replacement Drawing – Fig. 7

The New Oxford American Dictionary

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hes·i·ta·tion |,hezɪ'taʃən| *n.* the action of pausing or hesitating before saying or doing something: *she answered without hesitation.*

Hesperia |he'spɪrɪə| *n.* a city in southern California, north of San Bernardino; pop. 50,418.

Hesperian |he'spɪrɪən| *adj.* Greek Mythology of or concerning the Hesperides.
■ poetic/literary western.

—**ORIGIN** late 15th cent.: from Latin *hesperius* (from Greek *hesperios*, from *Hesperia* 'land of the west,' from *hesperos* 'western' (see **HESPERUS**)) + **-AN**.

Hesperides |he'spɪrɪdɪz| Greek Mythology a group of nymphs who were guardians, with the aid of a watchful dragon, of a tree of golden apples in a garden located beyond the Atlas Mountains at the western border of Oceanus, the river encircling the world. One of the labors of Hercules was to fetch the golden apples.

hesperidium |,hespə'rɪdɪəm| *n.* (pl. *hesperidia* [-rɪdɪə]) Botany a fruit with sectioned pulp inside a separable rind, e.g., an orange or grapefruit.

—**ORIGIN** mid 19th cent.: based on *Hesperideae*, former name of an order of plants containing citrus fruits, named after the golden apples of the Hesperides (see **HESPERIDES**) + **-IUM**.

Hesperus |'hespərəs| *n.* poetic/literary the planet Venus.

—**ORIGIN** Latin, from Greek *hesperos* 'western,' (as a noun) 'the evening star.'

Hess |hes|, Dame Myra (1890–1965), English pianist. She was noted for her performances of the music of Schumann, Beethoven, Mozart, and Bach.

Hess, (Walther Richard) Rudolf (1894–1987), German politician, deputy leader of the Nazi Party 1934–41. In 1941, secretly and on his own initiative, he parachuted into Scotland to negotiate peace with Britain. He was imprisoned for the duration of the war and, at the Nuremberg war trials, sentenced to life imprisonment in Spandau prison, Berlin, where he died.

Hess, Victor Francis (1883–1964), US physicist; born in Austria; born *Victor Franz Hess*. He showed that some ionizing radiation (later termed cosmic rays) was extraterrestrial in origin but did not come from the sun. Nobel Prize for Physics (1936, shared with C. D. Anderson).

Hesse |hes|, Hesse a state in western Germany; capital, Wiesbaden. German name **HESEN**.

—**DERIVATIVES** **Hessian** |'hesiən| *adj.* & *n.*

Hesse |'hesə|, Hermann (1877–1962), Swiss novelist and poet, born in Germany. His work reflects his interest in spiritual values as expressed in Eastern religion and his involvement in Jungian analysis. Notable works: *Siddhartha* (1922), *Der Steppenwolf* (1927), and *The Glass Bead Game* (1943). Nobel Prize for Literature (1946).

hesian |'hesiən| *n.* a strong, coarse fabric made from hemp or jute, used for sacks.

—**ORIGIN** late 19th cent.: from *Hesse* (see **HESSE**) + **-IAN**.

Hessian boot *n.* a high tasseled leather boot, originally worn by Hessian troops.

Hessian fly *n.* a gall midge whose larvae are a pest of cereal crops, occurring in wheat-growing areas.

■ *Mayetiola destructor*, family Cecidomyiidae.

—**ORIGIN** late 18th cent.: so named because it was supposed (erroneously) to have been carried to America by Hessian troops during the American Revolution.

hest |hest| *n.* archaic form of **HEEST**.

—**ORIGIN** Old English *hæst*, of Germanic origin; related to **HIGHT**. The spelling change in Middle English was by association with abstract nouns ending in **-t**.

Heston |'hestən|, Charlton (1924–) US actor and social activist. His movies include *The Ten Commandments* (1956), *Ben-Hur* (Academy Award, 1959), and *Planet of the Apes* (1968). He headed the National Rifle Association (NRA) from 1998.

Heshvan |'kheshvən|, Heshvan (also **Chesvan**, **Heshvan**) *n.* (in the Jewish calendar) the second month of the civil and eighth of the religious year, usually coinciding with parts of October and November.

—**ORIGIN** from Hebrew *heshvān*.

Hesychast |'hesɪ,kæst| *n.* historical a member of a movement dedicated to contemplation, originating among the Orthodox monks of Mount Athos in the 14th century.

—**ORIGIN** mid 19th cent.: from late Greek *hēsukhasiēs* 'hermit,' from *hēsukhazein* 'be still,' from *hēsukhos* 'still.'

het |het| *adj.* & *n.* informal short for **HETEROSEXUAL**.

hetaira |hi'tɪrə| (also *hetaira* [-tɪrə]) *n.* (pl. *hetairas* or *hetairae* [-tɪrɪ] or *hetairas* or *hetairai* [-tɪrɪ]) a courtesan or mistress, esp. one in ancient Greece akin to the modern geisha.

—**ORIGIN** from Greek *hetaira*, feminine of *hetairōs* 'companion.'

hetero |'hetərə| *adj.* & *n.* informal short for **HETEROSEXUAL**.

hetero *comb. form* other; different: *heteropolar* | *heterosexual*. Often contrasted with **HOMO**.

—**ORIGIN** from Greek *heteros* 'other.'

heteroaromatic |,hetərə'rə'mætɪk| *adj.* Chemistry denoting an organic compound with a ring structure that is both heterocyclic and aromatic.

heteroatom |,hetərə'ætəm| *n.* an atom in the ring of a cyclic compound other than a carbon atom.

—**DERIVATIVES** **heteroatomic** *adj.*

heterocercal |,hetərə'sɜ:kəl| *adj.* Zoology (of a fish's tail) having unequal upper and lower lobes, usually with the vertebral column passing into the upper.

Contrasted with **DIPHYCERCAL**, **HOMOCERCAL**.

—**ORIGIN** mid 19th cent.: from **HETERO-** 'other' + Greek *kerkos* 'tail.'

heterochromatic |,hetərə'krə'mætɪk| *adj.* 1 of several different colors or (in physics) wavelengths.

2 Biochemistry of or relating to heterochromatin.

heterochromatin |,hetərə'krəmætɪn| *n.* Biology chromosome material of different density from normal (usually greater), in which the activity of the genes is modified or suppressed. Compare with **EUCHROMATIN**.

heterochromosome |,hetərə'krə'mə'səʊm| *n.* another term for **SEX CHROMOSOME**.

heteroclit |'hetərə,kli:t| *formal adj.* abnormal or irregular.

■ an abnormal thing or person.

■ an irregularly declined word, esp. a Greek or Latin noun.

—**DERIVATIVES** **heteroclitic** |,hetərə'kli:tɪk| *adj.*

—**ORIGIN** late 15th cent.: via late Latin from Greek *heteroklitos*, from *heteros* 'other' + *-klitos* 'inflected' (from *klinein* 'to lean, incline').

heterocyclic |,hetərə'sɪklɪk|, '-sɪklɪk| *adj.* Chemistry denoting a compound whose molecule contains a ring of atoms of at least two elements (one of which is generally carbon).

heterocyst |'hetərə,sɪst| *n.* a large, transparent, thick-walled cell found in the filaments of certain blue-green algae and in certain fungi.

heterodox |'hetərə,dɒks| *adj.* not conforming with accepted or orthodox standards or beliefs: *heterodox views*.

—**DERIVATIVES** **heterodoxy** *n.*

—**ORIGIN** early 17th cent. (originally as a noun denoting an unorthodox opinion): via late Latin from Greek *heterodoxos*, from *heteros* 'other' + *doxa* 'opinion.'

heterodyne |'hetərə,dɪn| Electronics *adj.* of or relating to the production of a lower frequency from the combination of two almost equal high frequencies, as used in radio transmission.

■ [trans.] combine (a high-frequency signal) with another to produce a lower frequency in this way.

—**ORIGIN** early 20th cent.: from **HETERO-** 'other' + *-dyne*, suffix formed irregularly from Greek *dynamis* 'power.'

heteroeccious |,hetərə'ɛʃhəs| *adj.* parasitic on different and often unrelated species of host at different stages of life. Compare with **HOMOECCIOUS**.

heterogametic |,hetərə'gæmɪk| *adj.* Biology denoting the sex that has sex chromosomes that differ in morphology, resulting in two different kinds of gamete, e.g., (in mammals) the male and (in birds) the female. The opposite of **HOMOGAMETIC**.

heterogamy |,hetərə'gæmə| *n.* 1 chiefly Zoology the alternation of generations, esp. between sexual and parthenogenetic generations.

2 Botany a state in which the flowers of a plant are of two or more types. Compare with **HOMOGAMY** (sense 2).

■ another term for **ANISOGAMY**.

3 marriage between people from different sociological or educational backgrounds. Compare with **HOMOGAMY** (sense 1).

—**DERIVATIVES** **heterogamous** |-'rægəməs| *adj.*

heterogeneous |,hetərə'jenəs| *adj.* diverse in character or content: *a large and heterogeneous collection*.

■ Chemistry of or denoting a process involving substances in different phases (solid, liquid, or gaseous). ■ Mathematics incommensurable through being of different kinds, degrees, or dimensions.

—**DERIVATIVES** **heterogeneity** |-'jə'nɛəti| *n.*; **heterogeneously** *adv.*; **heterogeneousness** *n.*

—**ORIGIN** early 17th cent.: from medieval Latin *heterogenus*, from Greek *heterogenēs*, from *heteros* 'other' + *genos* 'a kind.'

USAGE: The correct spelling for the word meaning 'diverse in character or content' is **heterogeneous**; but a fairly common misspelling is **heterogenous**. The reason for the error probably relates to the pronunciation, which, in rapid speech, often skims over

the fifth syllable as if to skip the **e**. Take care to note that **heterogenous** is a different word, which is used in specialized medical and biological senses and means 'originating outside the organism.'

heterogeneous |,hetərə'jənəs| *adj.* Medicine originating outside the organism: *present in the urine are heterogeneous proteins*.

USAGE: See **usage** at **HETEROGENEOUS**.

heteroglossia |,hetərə'gləsiə| *n.* the presence of two or more voices or expressed viewpoints in a text or other artistic work.

heterograft |'hetərə,græft| *n.* another term for **XENOGRAFT**.

heterogynous |,hetərə'jənəs| *adj.* having females of two kinds, fertile and neuter, as in bees and ants.

heterologous |,hetərə'ləgəs| *adj.* chiefly Medicine & Biology not homologous.

—**DERIVATIVES** **heterology** |-'rələdʒi| *n.*

heterolysis |,hetərə'ləsis|, '-rə'lɪsɪs| *n.* 1 Biology the dissolution of cells by lysins or enzymes from different species.

2 Chemistry the breakdown of a compound into oppositely charged ions.

—**DERIVATIVES** **heterolytic** *adj.*

heteromerous |,hetərə'mərəs| *adj.* Biology having or composed of parts that differ in number or position.

heteromorphic |,hetərə'mɔrfɪk| *adj.* Biology occurring in two or more different forms, esp. at different stages in the life cycle.

—**DERIVATIVES** **heteromorph** |'hetərə,mɔrf| *n.*; **heteromorphy** *n.*

heteromorphism |,hetərə'mɔrfɪzəm| *n.* Biology the quality or condition of existing in various forms: *chromosomal heteromorphism*.

heteronomous |,hetərə'nəməs| *adj.* subject to a law or standard external to itself.

■ (in Kantian moral philosophy) acting in accordance with one's desires rather than reason or moral duty. Compare with **AUTONOMOUS**. ■ subject to different laws.

—**DERIVATIVES** **heteronomy** |-'rənəmɛ| *n.*

heteronym |'hetərə,nɪm| *n.* Linguistics 1 each of two or more words that are spelled identically but have different sounds and meanings, such as *tear* meaning 'rip' and *tear* meaning 'liquid from the eye.'

2 each of two or more words that are used to refer to the identical thing in different geographical areas of a speech community, such as *submarine sandwich*, *hoagie*, and *grinder*.

3 each of two words having the same meaning but derived from unrelated sources, for example *preface* and *foreword*. Contrasted with **PARONYM**.

—**DERIVATIVES** **heteronymic** |'hetərə'nɪmɪk| *adj.*

heteronymous |,hetərə'nəməs| *adj.*

heterophyte |'hetərə,fɪt| *n.* Botany a plant that derives its nourishment from other organisms.

—**DERIVATIVES** **heterophytic** *adj.* |-'rɒ'lɪtɪk|

heteroplasmy |'hetərə,plæsmɪ| *n.* the operation of grafting tissue between two individuals of the same or different species.

—**DERIVATIVES** **heteroplastic** *adj.* |-'plæstɪk|

heteropolar |,hetərə'pɒlər| *adj.* chiefly Physics characterized by opposite or alternating polarity.

■ (esp. of an electric motor) with an armature passing north and south magnetic poles alternately.

Heteroptera |,hetərə'ptərə| Entomology a group of true bugs in which the forewings are nonuniform; having a thickened base and membranous tip. The predatory and water bugs belong to this group, as well as many plant bugs. Compare with **HOMOPTERA**.

■ Suborder Heteroptera, order Hemiptera.

■ [as plural *n.*] (heteroptera) bugs of this group.

—**DERIVATIVES** **heteropteran** |-'ræptərən| *n.* & *adj.*

heteropterous |-'ræptərəs| *adj.*

—**ORIGIN** modern Latin (plural), from Greek *heteros* 'other' + *pteron* 'wing.'

heterosexism |,hetərə'sek,sɪzəm| *n.* discrimination or prejudice against homosexuals on the assumption that heterosexuality is the normal sexual orientation.

—**DERIVATIVES** **heterosexist** *adj.*

heterosexual |,hetərə'sekʃəwəl| *adj.* (of a person) sexually attracted to people of the opposite sex.

■ involving or characterized by sexual attraction between people of the opposite sex: *heterosexual relationships*.

■ a heterosexual person.

—**DERIVATIVES** **heterosexuality** |-'seksʃəwə'lɪti| *n.*; **heterosexually** *adv.*

heterosis |,hetərə'sɪs| *n.* Genetics the tendency of a crossbred individual to show qualities superior to those of both parents. Also called **HYBRID VIGOR**.